

MUSAYEV, I A

324. HYDROGENATION OF UNSATURATED HYDROCARBONS UNDER PRESSURE OF
HYDROGEN. Musayev, I. A. (Doklady Akad. Nauk SSSR (Rep. Acad. Sci.
U.S.S.R.), 11 Oct. 1961, vol. 80, (5), 759-760). The author has shown
previously that copperized asbestos acts as a selective catalyst for hydro-
genation under pressure, at 280 to 300°C, of unsaturated hydrocarbons,
individually or in mixtures with the corresponding saturated hydrocarbons.
Aromatic rings are not hydrogenated. Further laboratory experiments at
275 to 280° and 80 atm. are briefly recorded. (L).

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C A

Hydrogenation of unsaturated hydrocarbons under pressure. I. A. Musayev. *Doklady Akad. Nauk S.S.S.R.* 80, 759-60 (1951).—Hydrogenation to the corresponding saturated

compounds was attained in an autoclave, under an initial H₂ pressure of 80 atm., in 30-60 min. expts. at 275-300°, on a Cu-on-asbestos catalyst, with the following unsatd. hydrocarbons: (CH₃)₂CHCH=CH₂; CH₃CH=CH₂; (CH₃)₂CHCH=CH₂; CH₃CH=CH₂; CH₃CH=CH₂; CH₃CH=CH₂; cyclohexene; CH₂=CHPh. Aromatic rings are not hydrogenated under these conditions. With isoprene, distn. of the catalyze left about 0.7% of a residue, b. above 28°, and found to contain some aromatic, apparently *p*-MeC₆H₄CHMe₂, formed by dimerization. N. Thon

PROCESSES AND PROPERTIES																									
<p>Hydrogenation of unsaturated hydrocarbons. I. A. Musnev and G. D. Gal'pern. <i>J. Applied Chem.</i> (U. S. S. R.) 12, 572-6 (in French, 576) (1939). — The following hydrocarbons were hydrogenated in a specially constructed app. (described) at 300° under an initial H pressure of 100-130 atm, for 1.5-2 hrs. or 3-4 hrs. in the presence of a catalyst, with the following results: (1) indene → indane; (2) limonene → menthane; (3) octene (b. 118-21°) → octane; (4) dodecylene (b. 210-14°) → dodecane; (5) naphthalene, no reaction; (6) isooctylbenzene, no reaction; (7) stilbene → 1,2-diphenylethane; and (8) 1,2,3,4-tetrahydronaphthalene, no reaction. The catalyst used was prepd. by the pptn. of Cu hydroxide on asbestos followed by its reduction. The yield of satd. hydrocarbons in all cases was 98-99%. Since the aromatic hydrocarbons were not hydrogenated in the presence of the above catalyst, the latter could be used for the selective hydrogenation of unsatd. hydrocarbons in the presence of aromatic compds. and for the analysis of petroleum products contg. unsatd. compds. by the Vlugter, Waterman and Vesten method (cf. <i>C. A.</i> 20, 7057°). The catalyst also had an ability to remove S from petroleum fractions and thus facilitated subsequent hydrogenation of the aromatic hydrocarbons.</p> <p style="text-align: right;">A. A. Podgorov</p>																									
<p>ASB 514 METALLURGICAL LITERATURE CLASSIFICATION</p>																									

MUSAYEV, I. A.

USSR/Chemistry - Petroleum

1 Aug 53

"Individual Aromatic Hydrocarbons of the Gasoline Fraction From Petroleum Occurring in the Red-Colored [?] Stratum of Nebit-Dag," Acad A. V. Topchiyev, I. A. Musayev, M. V. Shishkina, G. D. Gal'pern, Petroleum Inst, Acad Sci USSR

DAN SSSR, Vol 91, No 4, pp 869-871.

Investigated the chemical composition of Nebit-Dag petroleum in order to compare it with that of other Caspian crudes. Found that in the gasoline fraction boiling up to 175°, 1, 2, 4-

27277

trimethylbenzene, ethylbenzene, o-xylene, and m-xylene comprise 52.8% of the total content of aromatics.

27277

TOPCHIEV, A.V., akademik; ~~MURATOV~~, I.A.; GAL'PERN, G.D.

Investigation in the composition of Nebit-Dag petroleum;
Report 1. Trudy Inst.nefti 4:3-9 '54. (MIRA 8:1)
(Nebit-Dag--Petroleum--Analysis)

TOPCHIEV, A.V., akademik; MUSAYEV, I.A.; SHISHKINA, M.V.; GAL'PERN, G.D.

Investigation in the composition of Nebit-Dag petroleum. Report 2.
Trudy Inst. nefti 4:10-17 '54. (MLRA 8:1)
(Nebit-Dag--Petroleum--Analysis) (Nebit-Dag--Hydrocarbons)

MUSAYEV, I.A.

✓ 1480. INDIVIDUAL HYDROCARBONS IN THE LIGROINE FRACTION OF WEST NEBIT-DAG CRUDE OIL. Topchiev, A.V., Musayev, I.A., Kisilinski, A.N. and Gal'pern, G.D. (Khim. Tekhnol. Topliva (Chem. Technol. Fuel, Moscow), 1956, (2), 9-13; abstr. in Chem. Abstr., 1956, vol. 50, 11007). The ligroine fraction (boiling up to 175°) of Benit-Dag crude oil was found to contain aromatic hydrocarbons 9.3, cyclohexane derivatives 27.4, cyclopentane derivatives 17.0, paraffins 38.1, and high boiling residue and loss 8.2%. Each fraction was separated to give C₁₀H₈.

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MUSAYEV, I. H.

TOPCHIEV, A.V.; MUSAYEV, I.A.; GAL'PERN, G.D.; SHISHKINA, M.V.

Analysis of the composition of Nebit-Dag petroleum. Trudy Inst.
nefti no.6:3-11 '55. (MLRA 8:12)

(Nebit-Dag--Petroleum--Analysis)

USSR/Chemical Technology - Chemical Products and Their Application. Treatment of
Natural Gases and Petroleum. Motor Fuels. Lubricants,
I-13

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62605

Author: Topchiyev, A. V., Gal'pern, G. D., Musayev, I. A., Kisilinskiy, A. N.,
Shishkina, M. V.

Institution: None

Title: Individual Paraffinic and Naphthenic Hydrocarbons of the Gasoline
Fraction of Nebitdag Petroleum

Original

Periodical: Dokl. AN SSSR, 1955, 103, No 6, 1035-1038

Abstract: The gasoline fraction of Nebitdag petroleum after removal of aromatic
hydrocarbons by chromatography on silicagel, was divided by distilla-
tion into 43 narrow fractions. The first 11 fractions were used di-
rectly for spectral investigations, while the other were also sub-
jected to spectral investigation after analytical dehydrogenation
over platinized charcoal with iron, and in part after dearomatization

Card 1/2

USSR/Chemical Technology - Chemical Products and Their Application. Treatment of Natural Gases and Petroleum. Motor Fuels. Lubricants, I-13

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62605

Abstract: of the obtained catalysts. The analyses showed that Nebitdag gasoline recovered up to 150° contains about 140 individual hydrocarbons. Approximately 50% of its composition consists of 15 hydrocarbons. In maximal concentration are present: among the paraffinic, 2-methyl butane (4.50%); n-hexane (3.31%); n-pentane (2.69%); n-heptane (2.26%) and 2-methyl pentane (2.10%); of the cyclopentanic, methyl cyclopentane (5.03%); cis-1,3-dimethyl cyclopentane (2.16%) and trans-1,2-dimethyl cyclopentane; of cyclohexanic, methyl cyclohexane (10.49%); cyclohexane (4.97%); 1,1,3-trimethyl cyclohexane (2.41%); ethyl cyclohexane (2.25%) and cis-1,3-dimethyl cyclohexane (2.22%). It was found that on dehydrogenation conversion of 1,1-dimethyl cyclohexane with cleavage of the methyl group as CH_4 reaches 5% in the case of the 118-119° fraction. Analogous conversion of 1,1,3-trimethyl cyclohexane yields traces of m-xylene. In the 96-101° fraction is observed a conversion of about 5% of cis-1,2-dimethyl cyclopentane to the trans-form. In the 86-88° and 128-136° fractions is observed a slight hydrogenolysis of cyclopentanes (up to 5%).

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USSR/Chemical Technology - Chemical Products and Their Application. Treatment of Natural Gases and Petroleum. Motor Fuels. Lubricants, I-13

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62606

Author: Topchiyev, A. V., Musayev, I. A., Kislinskiy, A. N., Gal'pern, G. D.

Institution: None

Title: Individual Aromatic and Hexahydroaromatic Hydrocarbons of the Gasoline Fraction of the Romashkinsk Petroleum

Original

Periodical: Dokl. AN SSSR, 1955, 104, No 1, 93-95

Abstract: On study of the composition of the gasoline fraction (50-175°) of the petroleum from the Romashkinsk deposit by the combined method of Kazanskiy and Landsberg (Izv. AN SSSR, OKhN, No 2, 1951, 100) it was found that it contains 5.46% aromatic (toluene, pseudo-cumene and m-xylene, etc, a total of 15 hydrocarbons) and 8% hexahydroaromatic hydrocarbons (methyl cyclohexane, ethyl cyclohexane, 1,3-dimethyl cyclohexane, cyclohexane and other, a total of 20 hydrocarbons).

Card 1/1

MUSAYEV, I. A.

Candidate of Chemical Sciences I. A. MUSAYEV, of the Institute for Petroleum, AS USSR, attended a conference on petroleum and petroleum products held in Moscow from 16 to 20 Jan. 1956.

SO: VAN SSSR, #6, 1956, Unclassified

TOPCHIEV, A.V.; MUSAYEV, I.A.; KISLINSKIY, A.N.; GAL'PERN, G.D.

Individual hydrocarbons of the benzene group produced from western
Nebit-Dag (Akchagyl stage) petroleum. Khim.i tekhn.tepl. no.2:9-13 F
'56. (Nebit-Dag--Benzene derivatives) (MIRA 9:9)

TOPCHIEV, A.V.; MUSAYEV, I.A.; KISLINSKIY, A.N.

Individual paraffin and pentamethyl hydrocarbons of the gasoline
fraction produced from Romashkin (Minaibayeva) petroleum. Khim.i
tekh.tepl.no.3:8-10 Mr '56. (MIRA 9:9)
(Hydrocarbons) (Gasoline)

TOPCHIEV, A.V.; MUSAYEV, I.A.; ISKHAKOVA, E.Kh.; KISLINSKIY, A.N.;
GAL'PERN, G.D.

Chemical composition of benzine produced by thermal cracking.
Khim. i tekhn. topl. no.12:1-4 D '56. (MLRA 10:2)

1. Institut nefti Akademii nauk SSSR.
(Gasoline)

MUSAYEV, I. A.

PRIKHOTKO, A F

24(7)

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PHASE I BOOK EXPLOITATION SOV/1365

L'vov. Universitet

Materialy I Vsesoyuznogo soveshchaniya po spektroskopii. t. 1: Molekulyarnaya spektroskopiya (Papers of the 10th All-Union Conference on Spectroscopy. Vol. 1: Molecular Spectroscopy) [L'vov] Izd-vo L'vovskogo univ-ta, 1957. 499 p. 4,000 copies printed. (Series: Its: Fizichnyy zbirnyk, vyp. 5/8/)

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii. Ed.: Jager, S.L.; Tech. Ed.: Saranyuk, T.V.; Editorial Board: Lavdarsky, G.S., Academician (Resp. Ed., Deceased), Neporent, B.S., Doctor of Physical and Mathematical Sciences, Fabelinskiy, I.L., Doctor of Physical and Mathematical Sciences, Fabelinskiy, V.A., Doctor of Physical and Mathematical Sciences, Kornitskiy, V.G., Candidate of Technical Sciences, Rayskiy, S.M., Candidate of Physical and Mathematical Sciences, Klimovskiy, L.K., Candidate of Physical and Mathematical Sciences, Miliyanchuk, V.S., A. Ye., Candidate of Physical and Mathematical Sciences.

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Gordadze, G.S. Anharmonicity of the Potential Curve of a Hydrogen Molecule 317

Kusakov, M.M., S.S. Nifontova, Ye. S. Pokrovskaya, et al. Study of the Structural-group Composition of Kerosene Fractions by Means of the Absorption Spectra in the Near Ultraviolet Region 321

Iogansen, A.V. Structural-group Analysis of Saturated Petroleum Products by Means of Infrared Absorption Spectra. Determination of CH_3 -groups, Aliphatic CH_2 -groups and Long Chains, $(\text{CH}_2)_n$ 327

Gal'pern, G.D., A.N. Kiselinskiy, I.A. Musayev, et al. Study of the Composition of Benzene-ligroin Fractions by Means of Combined Dispersion Spectra 329

Gal'pern, G.D., M.M. Kusakov, Ye. S. Pokrovskaya, et al. Study of the Absorption Spectra of Some Petroleum Aromatic Hydrocarbons in the Near Ultraviolet and Infrared Regions 334

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GAL'PERN, G.D.; KISLINSKIY, A.N.; MUSAYEV, I.A.; TOPCHIYEV, A.V.; SHISHKINA,
M.V.

Raman spectrum study of gasoline-ligroine fractions. Fiz. sbor.
no.3:329-333 '57. (MIRA 11:8)
(Gasoline--Spectra) (Ligroine--Spectra)

MUSAYEV, I. A.

TOPCHIEV, A.V.; ISKHAKOV, E.Kh.; MUSAYEV, I.A.; GAL'PERN, G.D.

Chromatographic separation of benzene produced by thermal cracking.
Khim. i tekhn. topl. i masel no.11:26-33 N '57. (MIRA 11:1)

1. Institut nefti AN SSSR.
(Gasoline--Analysis) (Chromatographic analysis)

Musayev, I.A.
AUTHORS

Topchiyev, A.B., Academician
Musayev, I.A., Gal'pern, G.D.

20-4-30/60

TITLE

The Chemical Composition of Gasolines Obtained by
Thermal and Catalytic Cracking.
(O khimicheskom sostave benzinov termicheskogo i
kataliticheskogo krekinga.)

PERIODICAL

Doklady Akademii Nauk SSSR, 1957, Vol. 115, Nr 4,
pp. 740-743 (USSR)

ABSTRACT

The knowledge of the unsaturated and other hydrocarbon groups which form part of the cracking products is very important. At present the problem of the influence of the raw material on the structure of the above-mentioned products is not clear enough. The solution of this problem will make it possible to come closer to a rational selection of raw materials as well as to produce mineral oil products of prescribed quality. Furthermore a number of possibilities for the chemical synthesis of mineral oil will be created. The systematic investigation of the cracking products, however, meets with specific difficulties. A survey of the methods hitherto proposed by other authors is given; special reference is made

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The Chemical Composition of Gasoline Obtained by Thermal and Catalytic Cracking.

to the combined treatment of sulfuric acid by hydro- and dehydrogenating catalysis and the selective hydration. The present work employed the combined method. It contains: 1) the sulfuric-acid method for determining the total content of unsaturated and aromatic compounds, 2) determination of the per cent content of unsaturated hydrocarbons in fractions according to the iodine number and the molecular weight, 3) selective hydration of the unsaturated hydrocarbons at 80 at.excess pressure and 280-300°C, 4) dehydrogenation catalysis for the purpose of determining the nature of cyclanes (the unsaturated and the saturated ones), 5) the method of aniline points for the purpose of determining the group composition of the fractions which do not contain any unsaturated ones. Pressure distillates of the thermal and catalytic cracking of paraffin oil from Grozny were taken as test objects. Gasoline from thermal cracking. After drying in a weak nitrogen flow it was fractionated and separated into standard fractions. Table 1 shows the yields and characteristic

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20-4-30/60

The Chemical Composition of Gasoline Obtained by Thermal and Catalytic Cracking.

fractions. The fractions were divided into two parts; one part was investigated by the sulfuric-acid method, the other one was first selectively hydrated (over a copper catalyst). After sulphidization and distillation of the polymers the paraffin oil residue was thoroughly dehydrated on a platinum-iron catalyst. Table 2 gives the final results of the various hydrocarbon groups in this gasoline. Gasoline from catalytic cracking. Table 3 gives the characteristic of the initial fractions which were investigated in the same manner as above. For the 6-member naphthenes a detailed chemical group composition of gasoline from catalytic cracking (60-200°C) was determined. The final results are shown in table 4. By means of the combined method the precise group composition of gasolines from both types of cracking were investigated. It was proved that for the fractions 60-200°C of the thermal cracking gasoline a high content (44,7%) of unsaturated hydrocarbons is characteristic. The acyclic ones were

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The Chemical Composition of Gasoline Obtained by Thermal and Catalytic Cracking.

predominant (24,2%). The concentration of the unsaturated ones: cyclohexenes (7,2%) and cyclopentene (11,9 %) was marked. The comparatively high content of paraffins (28,8 %) in all fractions was close to that of the acyclic unsaturated compounds. An analogous analysis of the catalytic cracking gasoline showed that the smallest content of unsaturated hydrocarbons (almost the same percentage of the acyclic ones and those with one 5-member cycle) is characteristic for the fractions 60-200°C. The 6-member unsaturated cyclic compounds were almost completely absent (0,8%). The content of paraffinic hydrocarbons considerably surpasses that of olefins; the content of aromatic hydrocarbons rapidly increases with increasing temperature of extraction and reaches 60% for the fraction 150-200°C. The diene-hydrocarbons with a conjugate bond are absent in both gasoline groups.

There are 4 tables and 13 Slavic references.

CARD 4/5

20-4-30/60

The Chemical Composition of Gasoline Obtained by Thermal and Catalytic Cracking.

ASSOCIATION: Petroleum Institute AN USSR
 (Institut nefiti Akademii nauk SSSR)

SUBMITTED: July 9, 1956.

AVAILABLE: Library of Congress.

CARD 5/5

Нусыев, И. А.

5(3); 11(4)

PHASE I BOOK EXPLOITATION SCV/2221

Akademiya nauk SSSR. Institut nefti

Trudy, t. 12 (Transactions of the Petroleum Institute, USSR. Academy of Sciences, Vol 12) Moscow, Izd-vo AN SSSR, 1958. 395 p. Errata slip inserted. 1,700 copies printed.

Ed.: S. R. Sergiyenko, Professor; Ed. of Publishing House: K. G. Miyesserov; Tech. Ed.: V. V. Golubeva.

PURPOSE: The book is intended for scientists, engineers, and technicians in the petroleum industry.

COVERAGE: This collection of articles describes the results of studies on the chemistry and technology of petroleum and gas conducted in the laboratories of the Petroleum Institute, Academy of Sciences, USSR, in 1956 and 1957. A new section "Petrochemical Synthesis and Technology of Petroleum" has been included in the collection of articles. A list of investigations published by the associates of the Institute in 1956 and 1957 and a list of dissertations for the Doctor's and Candidate's degrees presented in 1956 and 1957 at open sessions of the Academic Council of the Petroleum Institute, Academy of Sciences, USSR, are given.

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Transactions of the Petroleum Institute, USSR (Cont.)

SOV/2221

There are 349 references: 199 Soviet, 112 English, 29 German, 6 French, and 3 Japanese.

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From the Editor

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- Sergiyenko, S. R., I. A. Nozhkina, and Ye. V. Nozdrina. Investigation of the Chemical Nature of High-Molecular Weight Condensed Dicyclic Aromatic Compounds of Romashkino Petroleum by the Catalytic Hydrogenation Method in the Presence of Raney Ni. Part 20 147
- Sergiyenko, S. R., Ye. V. Nozdrina, and I. A. Nozhkina. Hydrogenation of High-Molecular Weight Condensed Dicyclic Aromatic Compounds of Romashkino Petroleum in the Presence of a WS_2 - NiS - Al_2O_3 Catalyst under Mild Conditions. Paper 21 156
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AVAILABLE: Library of Congress	

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10-30-59

TOPCHIIYEV, A.V.; MUSAYEV, I.A.; ISKHAKOVA, E.Kh.; KISLINSKIY, A.N.; GAL'PERN,
G.D.

Chemical composition of thermally cracked gasoline. Report no.3:
Study of individual aromatic and saturated cyclic hydrocarbons.
Dokl. AN Azerb. SSR. 14 no.4:291-298 '58. (MIRA 11:5)
(Cracking process)

SOV, 74-27-10-1/4

AUTHORS: Topchiyev, A. V., Kazanskiy, B. A., Musayev, I. A., Gal'pern, G. D., Kusakov, M. M., Plate, A. F. (Moscow)

TITLE: Investigation of the Composition of the Light Fractions of Soviet **Crudes** (Issledovaniye sostava legkikh fraktsiy sovetskikh neftey)

PERIODICAL: Uspekhi khimii, 1958, Vol 27, Nr 10, pp 1177-1197 (USSR)

ABSTRACT: This paper gives a chronological report on the fundamental publications on the investigation of the composition of the light fractions of the Soviet mineral oils which have hitherto been made. In this connection special attention is paid to those publications which are edited by N. D. Zelinskiy, his collaborators and students (Refs 1-50). As may be seen from the present paper the current investigations of the mineral oil fractions until the years 1937, 1939 were carried out mainly in connection with a chemical characterization of the light benzoin and benzene ligroin fractions of mineral oil. Only in the 1940's methods were elaborated for the intensification of the individual investigation of the light fractions of the Soviet mineral oils. At the beginning of this paper reports are made on the first

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SOV/74-27-10-1/4

Investigation of the Composition of the Light Fractions of Soviet

Crudes

work carried out in 1881-83 (Bel'shteyn and Kurbatov). The diverse research institutes of mineralogy which have been established are chronologically mentioned (e. g.: 1924: the first central (Gosudarstvennyy Issledovatel'skiy neftyanoy Institut) State Research Institute of **Petroleum** in Moscow); 1934: Institut goryuchikh iskopayemykh AN SSSR (Institute of Combustible Minerals AS USSR), diverse chemo-technical laboratories of the GINI (State Research Institute of **Petroleum**) as well as diverse research institutes in the Republics of the **Union: Azerbaydzanskaya SSR, Uzbeksckaya SSR, Turkmenskaya SSR**, and others. After World War II methods of group analysis on a higher level were elaborated for the investigation of the petroleum naphtha fractions (with a further differentiation of the hydrocarbon subgroups). It was necessary to investigate in detail the composition of the hydrocarbons of the light mineral oil fractions because of the rapid development of air plane and automobile motor construction in the USSR. Due to this fact the demands concerning the quality of the motor fuel as well as of the crude oil changed. Especially in 1955 intensive investigations of the individual composition of the hydrocarbons of gasoline produced by cracking were carried out by using the chromatographic distribution of

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Investigation of the Composition of the Light Fractions of
Soviet Crudes

adsorption, the catalytic analytic hydrogenation and dehydrogenation as well as spectrum analysis by means of combined dispersion of light (Refs 108-160). In conclusion the authors are of the opinion that mere geological and geochemical factors are not sufficient for the production of experimentally founded theories on the formation and the change of **petroleum** under the conditions of migration. A great number of important data are necessary for the solution of the problem of the formation of **petroleum**, namely the nature, the concentration and the composition of the hydrocarbon components (or the non-hydrocarbon components); i. e., of the organosulfuric, nitrogen and oxygen compounds which belong to the composition of **petroleum**. There are 160 references, 160 of which are Soviet.

Card 3/3

AUTHORS: Topchiyev, A. V., Member, Academy of Sciences, USSR, Musayev, I. A., Iskhakova, Z. Kh., Kisilinskiy, A. N., Gal'pern, G. D. SOV/20-120-5-35/67

TITLE: Unsaturated Hydrocarbons in Thermal Cracking Gasoline (Nepredel'-nyye uglevodorody benzina termicheskogo krekinga)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 5, pp. 1056 - 1058 (USSR)

ABSTRACT: After a short survey of their own previous papers in the said field (Refs 1-3) the authors communicate their investigation results of the composition of the olefine part of the fraction 60 - 150°. From these fractions 10 narrow fractions were distilled off (Table 1). The molecular weights proved that these 10 fractions may be classified in 4 groups. The fifth fraction on the whole apparently consists of cycloolefines. The authors investigated the intricate group composition of the fractions by means of a combination of the following methods: the sulfuric acid method, the hydro- and dehydrogenation catalysis and the aniline method. The content of cyclopentene hydrocarbons considerably exceeds the content of cyclohexene olefines in all fractions, as

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Unsaturated Hydrocarbons in Thermal Cracking Gasoline

SOV/20-120-5-35/67

is shown in table 2. The distribution of cyclenes in the fractions was irregular, as, for example the content of cyclenes in the fractions Nr 8 and 10 exceeded the content of alkenes. The proportion of the first amounted in the mentioned fractions to 69 or 55%, respectively. The fifth fraction contained the greatest amount of cyclenes - 90%. The individual composition of the hydrocarbons was investigated by means of the spectra of the light combination scattering. The methods and the apparatus were the same as in (Ref 1). The final results of the determination of the composition of the hydrocarbon of the unsaturated gasoline part which was isolated from the fraction 60 - 150° of the thermal gasoline cracking are given in table 3. As is shown the aliphatic olefines are on the whole represented by not ramified and only little ramified olefines, whereas the cyclenes belong to the 1- and 2-substituted compounds. The not detected diolefines and olefines with quaternary carbon atoms either do not exist in the investigated gasoline or their quantities are outside the range of the spectral analysis. Saturated hydrocarbons were found in none of the fractions. There are 3 tables and 11 references, 7 of which are Soviet.

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Unsaturated Hydrocarbons in Thermal Cracking Gasoline SOV/20-120-5-35/67

SUBMITTED: February 26, 1958

1. Hydrocarbons--Fractionation
2. Gasoline--Analysis
3. Ethylenes--Analysis
4. Ethylenes--Spectra

Card 3/3

MUSAYEV, I. A., TOPCHIEV, A. V., LOKHWA, . Kh., KLIPSKY, A. M.,
JALPERIN, M. L.

"Studying the Chemical Composition of Engines Containing Unsaturated
Hydrocarbons."

Report submitted at the Fifth World Petroleum Congress, 30 May -
5 June 1959. New York.

SOV/65-59-7-12/12

AUTHORS: Topchiyev, A.V., Musayev, I.A., Iskhakova, E.Kh.,
Sardanashvili, N.M., Kislinskiy, A.N. and Gal'pern, G.D.

TITLE: Individual Hydrocarbon Composition of Thermal-Cracking
Petrol (Individual'nyy uglevodorodnyy sostav benzina
termicheskogo krekinga)

PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1959, Nr 7,
pp 60-64 (USSR)

ABSTRACT: The authors describe the continuation of their previous
work on the individual hydrocarbon compositions of
petrol made by thermal cracking (Refs 1, 2 and 3).
They now give data on the composition and properties of
the aromatic and naphthene-paraffin 60 - 150 °C fraction
of the petrol. Fractional distillation and a
chromatographic method previously developed (Ref 2)
were used. Thirty individual paraffin hydrocarbons were
detected (twelve quantitatively), 42 naphthenes
(22 quantitatively). The concentration of individual
hydrocarbons was irregular. It was shown that analytic
dehydrogenation of the naphthene-paraffin fraction of
petrol is accompanied by formation of about 1.5%
unsaturated hydrocarbons, consisting of olefines and

Card 1/2

SOV/65-59-7-12/12

Individual Hydrocarbon Composition of Thermal-Cracking Petrol
cyclo-olefines. M.S. Lentovskaya and N.N. Chekalova
participated in the experimental work.
There are 5 tables and 4 Soviet references.

Card 2/2

USCOMM DC-61.354

66175

SCV/20-128-5-29/67

5(3) 5.3300(B)

AUTHORS: Topchiyev, A. V., Academician, Musayev, I. A., Iskhakova,
E. Kh., Sardanashvili, N. M.

TITLE: Combined Method for Investigating the Detailed Composition
of the Hydrocarbon Groups of Cracking Benzenes

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 5,
pp 966 - 969 (USSR)

ABSTRACT: Separation of cracking benzenes into naphthene-paraffin-, un-
saturated, and aromatic hydrocarbons was rendered possible
by the chromatographic method worked out by the authors (Ref 1).
The chemical composition of the individual benzenes (Refs
2-4) as well as benzene groups (Ref 5) may be investigated
by combination of the chromatographic separation method, hydro-
dehydrogenation catalysis, and optical methods. This is of
theoretical and practical interest because unsaturated and
other products of thermal and catalytic processing of petro-
leum distillates are important potential sources. For this
purpose a reliable investigation method is required. This
paper gives a description of a method comprising the chroma-
tographic separation of the standard fractions (60-175 °C)

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SOV/20-128-5-29/67

Combined Method for Investigating the Detailed
Composition of the Hydrocarbon Groups of Cracking Benzenes

of cracking benzene into hydrocarbon groups in combination with hydrodehydrogenation catalysis. Thus, the chemical composition of 7 separated subgroups of saturated and unsaturated hydrocarbons may be determined. Distillates of three benzene samples were used which had been obtained from thermal and catalytic cracking of distillates of selected naphthene petroleum from Surakhany (extracted at the opyt'naya baza Azerbaydzhanskogo nauchno-issledovatel'skogo instituta neftyanoy promyshlennosti = Experimental Base of the Azerbaydzhan Scientific Research Institute of Petroleum Industry, Baku). T. N. Buturlova participated in the investigation. Table 1 shows the properties and group composition of the narrow fractions of benzenes 12, 2, and 11, separated in connection with chromatographic adsorption. Table 2 shows detailed data on the hydrocarbon composition of the fractions of these three benzenes. Hence, it appears that the authors worked out the method mentioned in the title according to the combined method mentioned and the aniline method. The data quoted show the differences of the chemical composition of the benzenes investigated in relation to the differences ✓

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66175

Combined Method for Investigating the Detailed
Composition of the Hydrocarbon Groups of Cracking Benzenes

SCV/2c-128-5-29/67

of the raw materials and the processing methods. There are
2 tables, and 8 Soviet references.

ASSOCIATION: Institut neftekhimicheskogo sinteza Akademii nauk SSSR (In-
stitute of Petroleum-chemical Synthesis of the Academy of
Sciences, USSR)

SUBMITTED: June 26, 1959

✓

Card 3/3

38688
S/510/60/014/000/001/006
D244/D307

5 0000
AUTHORS: Topchiyev, A.V., Nifontova, S.S., Musayev, I.A., Sanin, P.
I., Suchkova, A.A., Sushchik, R.Ya., and Ghekalova, N.N.

TITLE: Method of isolating aromatic hydrocarbons from medium
(kerosene)fractions of petroleum

SOURCE: Akademiya nauk SSSR. Institut nefti. Trudy, v. 14, 1960,
Khimiya nefti, 12 - 57

TEXT: Results are given of the separation of crude Romashinsk petro-
leum into distillation fractions, separation of aromatic hydrocar-
bons from the 175 - 300°C fractions, separation of the aromatic frac-
tions into structural types and a study of group-structural composi-
tion of the monocyclic aromatic hydrocarbons. The crude material was
from the Aktashsk area, Mikhaylovsk level, (depth 1583 - 1585 m).

Properties of the crude oil were as follows: d_4^{20} 0.8612, flash point
35°C, viscosity 7.13 cs at 50°C, and 2.84 cs at 100°C, wax content -
4.9 % melting point of wax 50°C, content of silica gel resins - 9.86
%, asphaltene content 2.9 %, elemental composition C 84.85 %, H
Card 1/3

S/510/60/014/000/001/006
D244/D307

Method of isolating aromatic ...

12.85 %, N 0.53 %, O 0.26 % and S 1.83 %. It was shown that narrow fractions of aromatic hydrocarbons can be separated by silica gel chromatography from a broad aromatic fraction from the 175 - 300°C cut. Individual hydrocarbons were oxidized with a 30 % solution of H_2O_2 at 75 - 80°C. It was shown that the hydrocarbon components are not oxidized under these conditions. However the aromatic fractions having n_D^{20} from 1.4950 to 1.55 underwent desulphurization. It was possible to use home produced Al_2O_3 to separate quantitatively synthetic binary mixtures of monocyclic and bicyclic hydrocarbons. The naphthene aromatic hydrocarbons of the type: cyclopentyltoluene, tertralin and indane mixed with tertiary iso-butyl-o-xylol were not well separated under the conditions used. The optimum conditions for the Al_2O_3 separation of the aromatic fractions into monocyclic and bicyclic hydrocarbons were: Oil charge 30 g, column height 2 m, (composed of three parts) the diameter decreasing from 53 mm at the top to 20 mm at the bottom. Iso-octane, benzene and iso-propyl alcohol were used as eluents. The hydrocarbon composition of the 175 - 300°C

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Method of isolating aromatic ...

S/510/60/014/000/001/006
D244/D307

cut of the Romashinsk crude oil was as follows: Monocyclic aromatics hydrocarbons 13.11 %, bicyclic aromatic hydrocarbons 3.01 %, mixed aromatics 0.7 %, hexamethylene hydrocarbons 6.4 %, pentamethylene hydrocarbons 11.5 %, normal paraffins 17.5 %, iso-paraffins 41.2 % and organic compounds of S 6.58 %. Examination of the uv spectra of the narrow fractions obtained from the broad aromatic fractions having $n_D^{20} = 1.49 - 1.50$ and $1.50 - 1.51$ established that they consist mainly of tetrasubstituted alkylaromatic hydrocarbons. There are 16 figures and 5 tables.

✓

Card 3/3

5(3), 15(3), 15(5)

AUTHORS:

Topchiyev, A. V., Academician,
Musayev, I. A., Iskhakova, E. Kh.,
Kislinskiy, A. N., Gal'pern, G. D.

S/020/60/130/06/024/059
 B011/B015

TITLE:

Investigation of the Individual Hydrocarbon Composition of
Benzines Obtained From the Cracking of High-quality Surakhany
Petroleum

PERIODICAL:

Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 6, pp 1267 - 1269
 (USSR)

ABSTRACT:

The authors of the present paper subjected the benzines they
 had investigated previously (Ref 1) to further investigation:
 B-12 (obtained by catalytic cracking of the petroleum - gas oil
 fraction), B-2 (obtained by thermal cracking of fuel oil), and
 B-11 (obtained by the thermal cracking of the petroleum - gas
 oil fraction). In the fraction up to 60°, the individual hydro-
 carbons (Table 2) were investigated in these benzines, in the
 fractions 60-175° the aromatic hydrocarbons (Table 1). Table 3
 contains data of the fractions up to 60°. The latter contain in
 each of the 3 benzines up to 30 individual hydrocarbons; e.g.
 in B-12 (in %): 2-methyl-butane 36.4; 2-methyl-butene-2 15.1;

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Investigation of the Individual Hydrocarbon Com- S/020/60/130/06/024/059
position of Benzines Obtained From the Cracking B011/B015
of High-quality Surakhany Petroleum

2-methyl-pentane 8.6; n-butene (1- and 2-together 6.5). Benzine B-2 contains (in %): n-pentane 25.0; 2-methyl-butane 11.1; 2-methyl-butene-2 7.9; 2-methyl-pentane and 4-methyl-pentene-1 7.5 each; pentene-1 7.2. Benzine B-11 contains (in %): n-pentane 19.9; 4-methyl-pentene-1 12.0; 2-methyl-butene-2 10.0; pentene-1 7.7; 2-methyl-butane 7.4; cyclopentane 7.2. The influence of the processing method upon benzines from the same raw material is expressed by the different content of individual hydrocarbons. The fractions up to 60° may well be regarded as a possible raw material for the petroleum-chemical synthesis. Table 1 shows that the total yield in aromatic hydrocarbons from B-12 is twice higher than that from B-11, and five times higher than that from B-2. The most important hydrocarbons are: in B-12: ps-cumene (27% of all aromatic hydrocarbons, 8.2% of the benzine fraction up to 175°); toluene (18 and 5.4%), m-xylene (14 and 2%), ethylbenzene (10 and 3%); in B-11: toluene (30 and 4.6%), benzene (18 and 2.8%), m-xylene (9 and 1.4%), ethylbenzene 9%; in B-2: m-xylene (17 and 1.0%), toluene (14 and 0.94%), ps-cumene (13

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Investigation of the Individual Hydrocarbon Composition of Benzines Obtained From the Cracking of High-quality Surakhany Petroleum

S/020/60/130/06/024/059
B011/B015

and 0.87%), ethylbenzene (11 and 0.23%). G. N. Buturlova and M. S. Lentovskaya took part in the experiments. There are 3 tables and 3 Soviet references. ✓

SUBMITTED: August 2, 1959

Card 3/3

S/020/60/134/006/020/031
B016/B067

AUTHORS: Topchiyev, A. V., Academician. Nifontova, S. S.,
Musayev, I. A., Sanin, P. I., Suchkova, A. A.,
Sushchik, R. Ya., and Chekalova, N. N.

TITLE: Methods of Isolating Aromatic Hydrocarbons From Medium
(Kerosene) Petroleum Fractions

PERIODICAL: Doklady Akademii nauk SSSR, 1960. Vol. 134 No. 6,
pp. 1378-1380

TEXT: The authors give the results of an investigation of the hydro-
carbon composition of the petroleum fractions in which the aromatic
hydrocarbons were chromatographically separated by using two adsorbents.
A petroleum sample from the Romashki oil field was studied. The benzene
fractions boiling out at 175°C and the asphalt-resin substances were
removed. The thus treated petroleum was fractionated in a vacuum ap-
paratus and the corresponding fractions were separated. A characteristics
of the fraction 175 - 300°C is described. Among the different methods
employed for investigating the chemical composition the chromatographic

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Methods of Isolating Aromatic Hydrocarbons
From Medium (Kerosene) Petroleum Fractions

S/020/60/134/006/020/031
B016/B067

isolation and separation of the aromatic hydrocarbons were dealt with in detail. The authors obtained good results by 2-step chromatography; first, all aromatic hydrocarbons are isolated and separated; the isolated substances are then separated according to their types. Isolation took place from the fraction by displacement chromatography on silica gel. Ethanol was used as displacing agent. Silica gel of type ACM (ASM) was treated by I. A. Musayev and E. Kh. Iskhanova prior to its use (Ref. 8). Seven fractions of aromatic hydrocarbons with the refractive indices of 1.49 to 1.55 were isolated. The sulfur-containing compounds were removed by oxidation with 25% H_2O_2 solution in glacial acetic acid at 80°. The sulfoxides formed were then chromatographically separated on silica gel ACK (ASK). The further sharp separation of the thus purified mixture of mono- and bicyclic aromatic hydrocarbons was carried out chromatographically with aluminum oxide of type $GV-MXN$ (GU-MKHP) of the Dneprodzerzhinskii zavod (Dneprodzerzhinsk Plant) as adsorbent. For this purpose a 2 m high column was used. Successive Isooctane, benzene, and isopropyl alcohol were used as desorbents. Under these conditions the monocyclic hydrocarbons can be quantitatively separated from the bicyclic ones. Table 1

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Methods of Isolating Aromatic Hydrocarbons
From Medium (Kerosene) Petroleum Fractions

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B016/B067

gives the results of the separation of tert.-isobutyl-ortho-xylene from butyl naphthalene and of tert.-isobutyl-ortho-xylene from diphenyl. This indicates that the chromatographic separation on silica gel produces much poorer results since in this case a high amount of intermediate fractions are formed. Among the above described conditions the total amount of monocyclic hydrocarbons (referred to the aromatic part) was 77.9%, that is 13.11% of the fraction 175-300°C, whereas the figures for the bicyclic were 17.91 and 3.01%, respectively. In conclusion the authors mention further components of the fraction described and their total percentual composition. There are 1 table and 8 references: 4 Soviet 1 US, 1 French, and 2 German.

ASSOCIATION: Institut neftekhimicheskogo sinteza Akademii nauk SSSR
(Institute of Petrochemical Synthesis of the Academy of Sciences, USSR)

SUBMITTED: July 21, 1960

Card 3/3

TOPCHIEV, A.V., akademik; GU TSI-VEY [Ku Ch'i-wei]; MUSAYEV, I.A.

Study of the n-paraffinic hydrocarbons of the kerosene fraction
of the Karamay petroleum of China. Dokl. AN SSSR 135 no.4:871-874
'60. (MIRA 13:11)

1. Institut neftekhimicheskogo sinteza Akademii nauk SSSR.
(Hydrocarbons)

S/062/61/000/001/008/016
B101/B220

AUTHORS: Topchiyev, A. V., Musayev, I. A., Iskhakova, E. Kh.,
and Sardanashvili, N. M.

TITLE: Chemical composition of benzines produced by cracking of
naphthene raw substance. Communication 1. Comprehensive
method of investigating the detailed chemical group com-
position of cracking benzines.

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
no. 1, 1961, 94-102

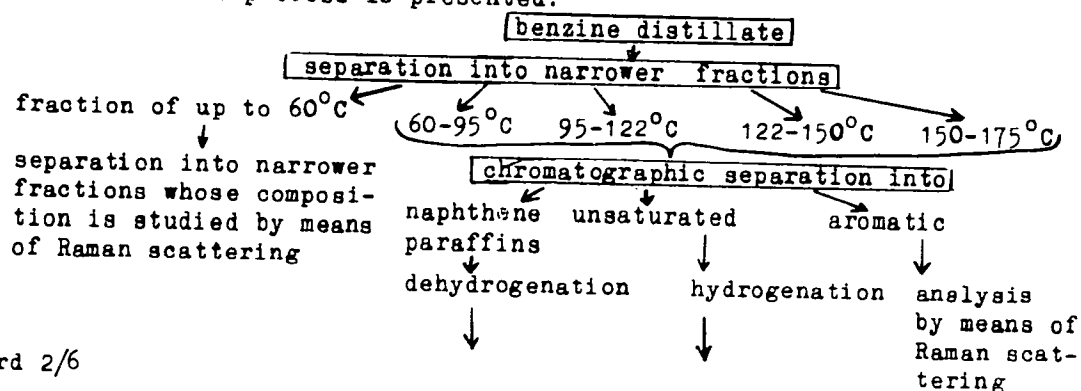
The aim of the authors was to find new raw material sources for the
petrochemical synthesis. The present publication is a study of the effect
of the chemical composition of the cracking material upon composition
and structure of the products obtained by thermal or catalytic cracking.
A previous article dealt with the chromatographic separation of cracking
benzines into naphthene paraffins, unsaturated and aromatic hydrocarbons.
In the present work this method has been combined with catalytic hydro-
genation and with the aniline method. Specimens obtained by thermal and

Card 1/6

Chemical composition of benzines....

S/062/61/000/001/008/016
B101/B220

catalytic cracking of Surakhan petroleum served as initial products:
1) Benzine B-12 (B-12) obtained by catalytic cracking of the kerosene-gasoil fraction (235-360°C) on an aluminum silicate catalyst at 460°C;
2) benzine B-2 (B-2) obtained by thermal cracking of mazut (boiling point above 360°C) at 515°C and 38-40 atm; 3) benzine B-11 (B-11) obtained by thermal cracking of the kerosene-gasoil fraction at 515°C, 40 atm. The scheme of the process is presented:



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Chemical composition of benzines...

The hydrogenation of the unsaturated hydrocarbons was performed in small autoclaves at 75-80 atm, 150-200°C with nickel upon kieselguhr as catalyst. Dehydrogenation was effected by means of platinized carbon with admixture of iron at 300-302°C. The content of aromatic hydrocarbons obtained by dehydrogenation of cyclohexane hydrocarbons, and the content of penta-methylene hydrocarbons in the dearomatized catalyzate were determined by the aniline method, the content of paraffin being determined from the difference. Results are given in Table 8. They confirm that the composition of the initial substance

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S/062/61/000/001/008/016
B101/B220

↓
sulfuration of
the dehydrogeni-
zate
↓
determination
of group composi-
tion

↓
hydrogenizate
↓
dehydrogenation
of the hydro-
genizate
↓
sulfuration of
the dehydrogeni-
zate
↓
determination
of group com-
position

Chemical composition of benzines...

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B101/B220

and the method of its treatment affected the composition of the benzine obtained. T. N. Buturlova cooperated. G. D. Gal'pern and P. S. Maslov are mentioned. There are 8 tables and 11 references: 9 Soviet-bloc and 2 non-Soviet-bloc. ✓

ASSOCIATION: Institut neftekhimicheskogo sinteza Akademii nauk SSSR
(Institute of Petrochemical Synthesis, Academy of Sciences USSR)

SUBMITTED: August 5, 1959

Card 4/6

Chemical composition of benzines...

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B101/B220

Детализированный групповой углеводородный состав бензинов в вес. % на исходную фракцию

2. Углеводороды	А Бензин-12				А Бензин-2						
	40 Температура исходной фракции, °C										
	60—95	95—122	122—150	150—175	60—95	95—122	122—150	150—175		60—95	
Циклогексановые 3	2,8	13,6	9,8	10,4	3,3	8,3	7,3	5,4	3,7		
Циклопентановые 4	17,8	13,4	7,3	10,5	7,5	10,4	10,1	6,7	8,5		
Парафиновые 5	38,6	15,3	12,0	15,4	38,4	31,1	33,3	38,5	26,7		
Ароматические 6	5,1	34,0	61,4	59,7	1,1	5,1	10,2	12,8	12,5		
Циклогексеновые 7	1,0	3,8	1,7	—	2,0	6,3	7,2	6,3	3,6		
Циклопентеновые 8	10,5	11,4	3,5	4,0	9,7	13,3	9,1	4,9	10,7		
Алкены 9	26,2	8,5	4,3	—	37,9	25,5	22,8	25,3	36,3		

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Chemical composition of benzines...

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B101/B220

Таблица 8

1 Бензин-11

95—122	122—150	150—175
10,0	7,8	9,8
8,6	9,4	10,4
20,2	20,2	22,3
19,6	18,9	19,5
9,7	8,3	7,9
9,5	9,2	6,6
22,4	24,1	24,2

Legend to Table 8: 1) benzine; 2) hydrocarbons; 3) cyclohexanes;
4) cyclopentanes; 5) paraffins; 6) aromatic; 7) cyclohexenes;
8) cyclopentenes; 9) alkenes; 10) temperature of initial fraction.

Card 6/6

TOPCHIEV, A.V.; MUSAYEV, I.A.; ISAKHAKOVA, E.Kh.; SARDANASHVILI, N.M.;
KISLINSKIY, A.N.; GAL'PERN, G.D.

Chemical composition of gasolines obtained from the cracking of
naphenic feed stocks. Report No.2: Individual hydrocarbon compo-
sition of cracking gasolines from Surakhan selective crudes.
Izv. AN SSSR. Otd. khim. nauk no.2:302-306 F '61. (MIRA 14:2)

1. Institut neftekhimicheskogo sinteza AN SSSR.
(Gasoline) (Petroleum products)

MUSAYEV, I.A.; GU TSI-VEY; TOPCHIYEV, A.V.; SANIN, P.I.

Separation of C₈-C₁₄ aromatic hydrocarbons by the gas-
liquid chromatography. Neftekhimiia 1 no.4:459-472 J1-Ag '61.
(MIRA 16:11)

1. Institut neftekhimicheskogo sinteza AN SSSR.

S/204/62/002/004/006/019

E075/E436

AUTHORS: Lavrovskiy, K.P., Brodskiy, A.M., Musayev, I.A.,
Sanin, P.I., Rumyantsev, A.N., Filatova, Ye.D.,
Iskhakova, E.Kh.

TITLE: On the preparation of higher normal α -olefines by a
high speed cracking of paraffinic petroleum products

PERIODICAL: Neftekhimiya, v.2, no.4, 1962, 487-494

TEXT: Results are described of high speed cracking of soft and
hard paraffin waxes, slack wax from Bitkov crude and waxy residue
from Ozek - suat crude in a pilot plant. The plant was described
previously (Khim. nauka i prom-stv, v.2, no.2, 1957). The waxes
were heated to 900 - 1000°C and mixed with powdered coke preheated
to 600 - 730°C. They were fed into the reactor at the rate of
60 to 80 h⁻¹. The gases produced (23.0 to 47.4% by weight of
total products) contained 33.1 to 52.7% wt. ethylene. The fraction
of the liquid products from the slack wax boiling between 40 - 73°C
and 73 - 100°C contained heptene-1 as the main component. For the
hard wax cracking products, the fraction boiling up to 60°C
contained 49.80% α -olefines (main component), about 20% conjugated
dienes and 15 to 12% cyclenes. The content of α -olefines in
Card 1/2

On the preparation of higher ...

S/204/62/002/004/006/019
E075/E436

the 60 - 175°C fraction was 70.4% (13.6% hexene-1, 17.1% heptene-1, 15% octene-1, 11.9% nonene-1, 12.8% decene-1). In general it was shown that the benzene from the high speed cracking of paraffin waxes consisted mainly of α -paraffins, their content in benzenes from the cracking of slack wax and waxy residue being much lower. There are 11 tables.

ASSOCIATION: Institut neftekhimicheskogo sinteza AN SSSR
(Institute of Petrochemical Synthesis AS USSR)



Card 2/2

MUSAYEV, I.A.; GU TSI-VEY [Ku Ch'i-wei]

Laboratory rectification column for distilling easily
crystallizing organic compounds. Zav.lab. 28 no.6:751-752
'62. (MIRA 15:5)

1. Institut neftekhimicheskogo sinteza AN SSSR.
(Distillation apparatus)

7
MUSAYEV, I.A., ROSENBERG, L.M., NIFONTOVA, S.S., GALPERN, G.D.,
NECHITAYLO, N.A., TERENTYEVA, YE.M., KUSAKOV, M.M., SANIN, P.I.

Investigating chemical composition of middle fractions of a
sulphurous crude oil in the USSR

Report to be submitted for the Sixth World Petroleum Congress,
Frankfurt, 16-26 June 63

VAKHABOVA, Kh.; MUSAYEV, I.A.; NIYASOV, A.M.

Gas-liquid chromatography of normal paraffin hydrocarbons in
Cheleken petroleum. Izv. AN Turk. SSR. Ser. fiz.-tekh., khim. i
geol.nauk no.6:23-30 '63. (MIRA 18:1)

1. Institut khimii AN Turkmenskoy SSR.

I 36473-65 EPF(c)/EWT(m)/T Pr-4 RM/WE

ACCESSION NR: AP5010003

UR/0204/64/004/004/0567/0571

23
2

AUTHOR: Musayev, I. A.; Iskhakova, E. Kh.; Rumyantsev, A. N.; Kislinskiy, A. N.; Sanin, P. I.

TITLE: Investigation of olefins contained in gasolines of high-velocity cracking of paraffin petroleum products

SOURCE: Neftekhimiya, v. 4, no. 4, 1964, 567-571

TOPIC TAGS: hydrocarbon, gasoline, paraffin wax, petroleum, petroleum refining, petroleum refinery product

Abstract: The individual and group hydrocarbon compositions of fractions boiling up to 60° and the gasolines (60-175°) of high-velocity cracking of soft paraffin of sulfur petroleums and Ozek-Suatskiy mazut was studied. The gasoline (60-175°) obtained from soft paraffin contained 74% olefins of normal structure, while the gasoline from Ozek-Suatskiy mazut contained 39% of such olefins. The light fractions (up to 60°) had a high content of alpha-olefins. Concentrates of alpha-olefins were isolated by chromatography on silica gel; distillation of the concentrates on a column with an efficiency of 45 theoretical plates gave a distinct fractionation of the C₆-C₁₀ alpha-olefins. High-velocity cracking of paraffin products thus was found

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ACCESSION NR: AP5010003

to be a promising method of producing alpha-olefins. Orig. art. has 3 graphs and 4 tables.

ASSOCIATION: Institut neftekhimicheskogo sinteza im. A. V. Topchiyeva AN SSSR
(Institute of Petrochemical Synthesis, AN SSSR)

SUBMITTED; 19Nov63

ENCL: 00

SUB CODE: FP, GC

NO REF SOV: 002

OTHER: 000

JPRS

Card 2/2

L 36486-65 EPF(c)/EWT(j)/EWT(m) Pc-4/Pr-4 RM

ACCESSION NR: AP5010564

UR/0204/64/004/005/0793/0797

AUTHOR: Musayev, I. A.; Sanin, P. I.; Suchkova, A. A.; Nifontova, S. S.; Sushchik, R. Ya.

TITLE: Determination of normal paraffins in middle petroleum fractions by a method of gas-liquid chromatography

SOURCE: Neftekhimiya, v. 4, no. 5, 1964, 793-797

TOPIC TAGS: petroleum, paraffin wax, chromatographic analysis, hydrocarbon

Abstract: The chromatographic separation and determination of normal paraffins of the middle fractions (175-3500) of Romashkin petroleum were studied. Conditions were found for determining normal paraffins by gas-liquid chromatography on stationary liquid phases: polyphenylmethylsiloxane fluid PPM-4 and cable oil. It was found to be more convenient to conduct the chromatographic separation at different temperatures, depending on thermolecular weight or on the boiling point of the hydrocarbons: for hydrocarbons up to C₁₆ at 225°, and for hydrocarbons above C₁₆ at 275°. The quantitative content of each hydrocarbon in the mixture was determined according to the chromatograms by two methods, which gave identical results: from the ratio of the areas of all the peaks and according to an internal standard (n-tridecane for one

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L 36486-65

ACCESSION NR: AP5010564

mixture, n-nonadecane for the other). The quantitative content of the individual paraffins, from decane to heneicosane in the 175-350° cut of Romashkin crude was established. Orig. art. has 6 graphs and 3 tables.

ASSOCIATION: Institut neftekhimicheskogo sinteza im. A. V. Topchiyeva AN SSSR
(Institute of Petrochemical Synthesis, AN SSSR)

SUBMITTED: 13Jan64

ENCL: 00

SUB CODE: FP, GC

NO REF SOV: 001

OTHER: 004

JPRS

Card 2/2

VAKHABOVA, Kh.; MUSAYEV, I.A.; NIYAZOV, A.M.

Use of the method of gas-liquid chromatography in analyzing
bicyclic aromatic hydrocarbons in Cheleken petroleum. Izv.
AN Turk. SSR. Ser. fiz.-tekhn., khim. i geol. nauk no.6:28-
35 '64. (MIRA 18:4)

1. Institut khimii AN Turkmenskoy SSR.

VAKHROVA, N. N. (1914-1985) (1914-1985)

Regular member of the USSR Academy of Sciences (1954-1985).
Prof. AN Turb. (1954-1985). (1954-1985). (1954-1985).
90-112-100.

1. Institute of Mathematics, Academy of Sciences, Moscow, U.S.S.R.

MUSAYEV, I. F.

Dissertation: "Vegetation of the Feeding Areas of the Sulok River Plain (Dagestan SSR)." Cand Biol Sci, Inst of Botany imeni V. L. Komarov, Acad Sci USSR, Moscow, Oct-Dec 53. (Vestnik Akademii Nauk, Moscow, Jun 54)

SO: SUM 318, 23 Dec 1954

USSR / Meadow Cultivation

L

Abs Jour: Ref Zhur-Mol., Vol 13, 1956, 53437

Author : Musayev, I. I.

Inst : Institute of Animal Husbandry, Dagestan Affiliate,
AS USSR

Title : Vegetation of Fodder Lands in the Sula Lowlands
(Peculiarities of Formation, Distribution and
Development)

Orig Pub: Tr. In-Ta Zhivotnovodstva. Dag. fil. AN USSR,
1956, 4, 105-112

Abstract: The vegetative cover of the Sula Lowlands is represented by numerous vegetative groups, in spite of the fact that it consists of a relatively small number of species (about 400). These vegetative

Card 1/3

USSR / Meadow Cultivation

L

Abs Jour: Ref Zhur-Biol., Vol 13, 1958, 53427

cess by cattle breeding and agricultural activity. As a result of cattle grazing the process of grass degradation actually prevails over processes of complication and development of vegetative groups. Surface improvements of land through irrigation, fertilization, and grass sowings are recommended as measures against pasture digressions. A diagram of successions and pasture digressions of vegetative groups of fodder land appendages in the Salak Lowlands and the adjacent foothills is given.
I. S. Shaternikova

Card 3/3

COUNTRY : USSR
CATEGORY : Meadow Cultivation. L
ABS. JOUR. : RZhBiol., No. 23, 1958, No. 104591
AUTHOR : Musayev, I. F.
INST. :
TITLE : Hay Fields and Pastures of Northern Flat-Land Dagestan.
CITE. REP. : S. kh. Sov. Kavkaz, 1956, No. 3, 52-54
ABSTRACT : No abstract.

Card: 2/1

9

MUSAYEV, I.F.

Seasonal development and productivity of wormwood and saltwort
associations in the lowland pastures of northern Daghestan.

Bot.zhur. 45 no.7:1011-1025 J1 '60.

(MIRA 13:7)

1. Dagestanskiy nauchno-issledovatel'skiy institut sel'skogo
khozyaystva, g. Makhachkala.

(Daghestan--Pastures and meadows)

(Wormwood)

(Saltwort)

MUSAYEV, I.F.

Seasonal rhythm of development and productivity of meadows with *Agropyron repens*, *Limonium meyeri*, *Galatella punctata*, *Glycyrrhiza glabra*, and *Medicago coerulea* as dominant plants in the lowland of northern Daghestan. Bot. zhur. 46 no.1:119-125 Ja '61.

(MIRA 14:3)

1. Dagestanskiy nauchno-issledovatel'skiy institut sel'skogo khozyaystva, g. Makhachkala.

(Daghestan—Pastures and meadows)

MUSAYEV, I.F.

Northern limits of the distribution of the characteristic components of the Turanian desert flora. Bot.zhur. 48 no.2:157-170 F '63.

(MIRA 16:4)

1. Leningradskiy gosudarstvennyy universitet.
(Soviet Central Asia—Desert flora)

MUSAYEV, I. I.

"Investigating chemical composition of middle fractions of a sulphurous crude oil in the USSR"

report to be submitted at the 6th World Petroleum Congress,
Frankfurt am Main, W. Germany, 19-26 Jun 63.

MUSAYEV, I.M.

Results of massive preventive gynecological examinations with the use of the cytological method of diagnosis of cancer under conditions prevailing in the district. Akush. i gin. no.2: 100-103'63. (MIRA 16:10)

1. Glukhovskiy rayonnyy akusher-ginekolog. Iz ginekologicheskogo otdeleniya (zav. I.M.Musayev) Glukhovskoy rayonnoy bol'nitsy Sumskoy oblasti (glavnyy vrach V.M.Melekhin). Nauchnyy rukovoditel' - zasluzhennyy deyatel' nauki UkrSSR prof. I.I. Grishchenko.

(GLUKHOV DISTRICT -- ~~CANCER~~ DIAGNOSIS)
(Gynecology)

ALIYEV, A.A.; MUSAYEV, I.M.

Shower bath as an important factor in stimulating sexual activity of
herd bulls in summer. Dokl. AN Azerb. SSR 20 no.2:67-70 '64.
(MIRA 17:6)

1. Institut veterinarii AN AzerSSR. Predstavleno akademikom AN
AzerSSR F.A.Melikovym.

MUSAYEV I M

22

Dewaxing pump and compressor pipes. I. M. Musayev.
 / Nefteyuzo Khim. 1960, No. 1, 12-15.— A discussion of
 various methods used in the dewaxing of pipes, princi-
 pally mech., but some chem. A. A. Reichtling

ASB-SL8 METALLURGICAL LITERATURE CLASSIFICATION

FROM NOVEMBER 1961 TO MAY 1962

ANDREYEV, A.G.; MUSAYEV, I.M., redaktor; UDALYY, A.M., tekhnicheskly redaktor.

[Small-size compressor lifts] Malogabaritnye kompressornye lifty.
Baku, Gos.nauchno-tekhn.isd-vo neftianoj i gorno-toplivnoj lit-ry, (MIRA 8:4)
Azerbaidzhanskoe otdelenie, 1950. 15 p.
(Oil wells—Gas lift)

MADERA, Roman Solomonovich; NURIDZHANOV, Georgiy Dzhumshudovich; MUSAYEV,
I.M., redaktor; AL'TMAN, T.B., redaktor izdatel'stva

[New technology of lowering and pulling operations in underground
repair of oil wells] Novaya tekhnologiya spusko-podzemnykh operatsii
v podzemnom remonte neftiannykh skvazhin. Baku, Azerbaidzhanskoe gos.
izd-vo neftianoi i nauchno-tekhn. lit-ry, 1956. 224 p. (MLBA 9:12)
(Oil wells--Repairing)

MUSAYEV, I.M.; KOZLOV, V.S.

Introduction of a method for adding fluid in well sand pumps.
Azerb.neft.khoz. 35 no.3:8-12 Mr '56.

(MLRA 9:10)

(Oil well drilling--Equipment and supplies)

MUSAYEV, I.M.; GRIGORYAN, Kh.A.

Study of wells having high formation pressures. Azerb.neft.khoz.
35 no.9:14-17 S '56. (MLRA 9:12)
(Condensate oil wells)

MUSAYEV, I.M.

Petroleum losses and means for reducing them. Azerb.neft.khoz.
36 no.7:31-33 J1 '57. (MIRA 10:10)
(Petroleum industry)

MUSAYEV, I.H.: AMIROV, A.D.

Exploitation of extradeep flowing wells. Azerb. neft. Khoz. 37
no.3:25-28 Mr '58. (MIRA 11:8)
(Petroleum engineering)

MUSAYEV, I.M.

Developing the Kyurovdag field. Azerb.neft.khoz. 37 no.8:
29-33 Ag '58. (MIRA 11:11)
(Kura Lowland--Petroleum engineering)

MUSAYEV, I.M.; ADZHALOVA, S.S.; KERIMOVA, Z.A.

Revised data on oil-reservoir rocks in the horizon 1 of the Eyurovdag
producing formation. Azerb.neft.khoz. 37 no.12:19-22 D '58.
(MIRA 12:3)

(Ali-Bayramly District--Petroleum geology)

14(5)

SOV/152-59-2-13/32

AUTHORS:

Musayev, I. M., Shapiro, B. A., Smol'nikov, N. V.

TITLE:

Fighting Foreign Waters in the Course of the Exploitation of a Petroleum Deposit (Bor'ba s postoronnimi vodami v protsesse razrabotki neftyanogo mestorozhdeniya). Experiences of the Plant of Kyurovdag NPU "Shirvanneft'" (Iz praktiki promysla Kyurovdag NPU "Shirvanneft'")

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Neft' i gaz, 1959, Nr 2, pp 53 - 57 (USSR)

ABSTRACT:

The main level of extraction in the southwestern branch of the Kyurovdag fold is the level I, which is situated in the upper part of the productive matter. In lithological respects it represents a sequence of sands and clay. Under the petrolific part of the cross section layers of water were discovered, which after the decrease of ohm resistance are marked in the core sampling diagrams. During the investigation of level I water broke through that mainly gathered in the bottom of the level and in lower lying layers. The water possibly broke through because of the connection along the drill shaft between petrolific and water-containing layers. The casting of petroleum cement is an

Card 1/2

SOV/152-59-2-13/32

Fighting Foreign Waters in the Course of the Exploitation of a Petroleum Deposit. Experiences of the Plant of Kyurovdag NPU "Shirvanneft'"

effective measure to obtain anhydrous petroleum from watery drillings and to lower the percentage of water in the final product. For the casting of the petroleum cement under the conditions prevailing in Kyurovdag no lowering or elevating work has to be done which permits work without elevators and derricks. There are 2 figures and 1 table.

ASSOCIATION: Azerbaydzhanskiy industrial'nyy institut im. M.Azizbekova (Azerbaydzhani Industrial Institute imeni M.Azizbekov) and NPU "Shirvanneft'"

Card 2/2

MUSAYEV, I.M.; AGALAROV, M.S.

Development of oil pools in horizon 1 of the Kyurovdag field and characteristics of the distribution of petroleum and water in layers. Azerb.neft.khoz. 38 no.1:22-25 Ja '59.

(MIRA 12:4)

(Kyurovdag region--Oil reservoir engineering)

MUSAYEV, I.M. ; KASIMOV, A.F. ; GUKASOV, N.A.

Simultaneous performance of an oil layer and a flowing well. Azerb.
neft. khoz. 39 no.5:18-20 My '60. (MIRA 13:10)
(Oil fields--Production methods)

AMIROV, A.D.; AGALAROV, D.M.; ADZHALOV, Z.M.; KASIMOV, A.F.; MUSAYEV, I.M.

Determining the flush production period of wells in the Kyurovga^d
field [in Azerbaijani with summary in Russian]. Azerb.neft.khoz.
39 no.9:25-27 S'60. (MIRA 13:10)

(Kyurovdag region—Oil reservoir engineering)

ALIYEV, M.A.; KASIMOV, A.F.; MUSAYEV, I.M.

Use of equations describing the material balance for the study
of percolation in fractured rocks. Dokl. AN Azerb. SSR 18
no.9:25-28 '62. (MIRA 17:1)

1. Azerbaydzhanskiy nauchno-issledovatel'skiy institut po
dobyche nefti. Predstavleno akademikom AN AzSSR S.M. Kuliyeveym.